AC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

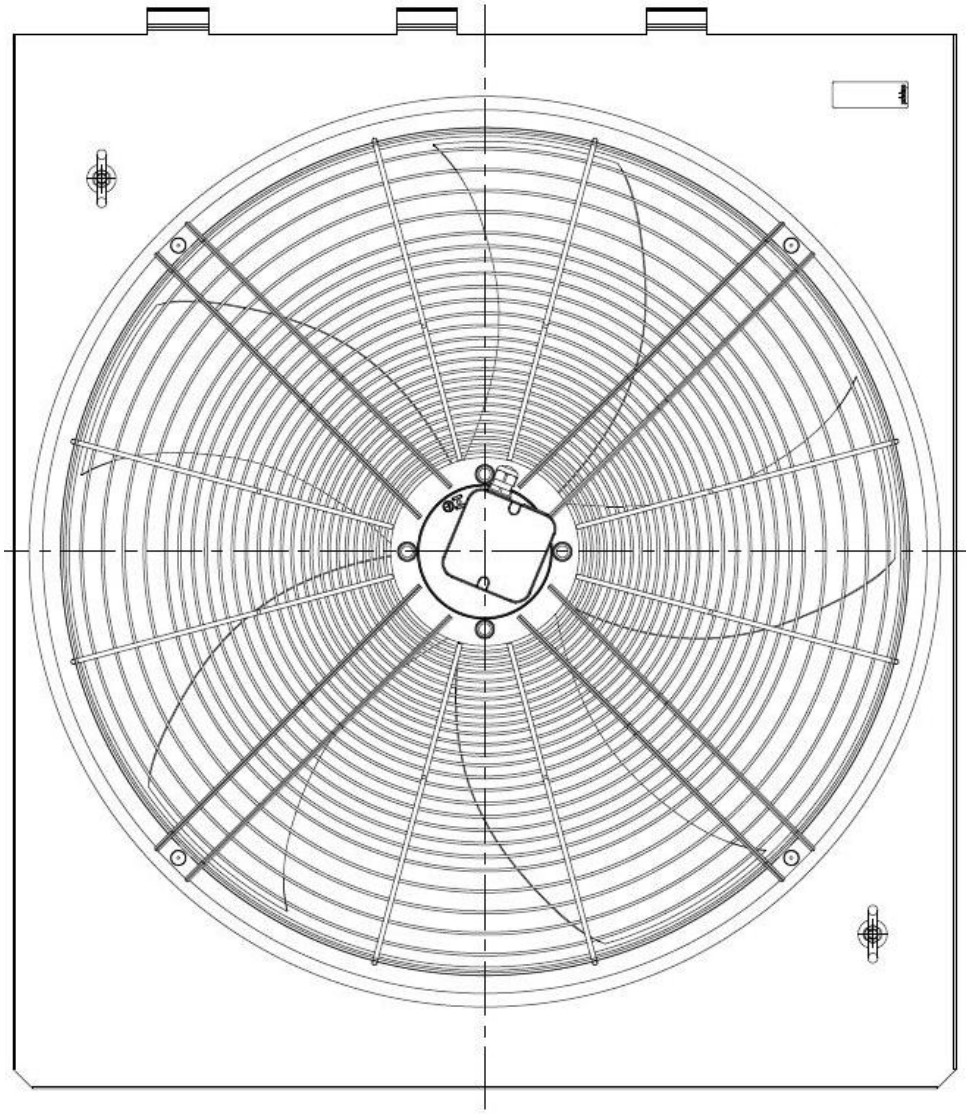
ebm-papst Ventilator (Shanghai) Co.,Ltd.

No.418, Hua Jing Road, Wai Gao Qiao Free Trade Zone, Pudong

Tel:+86(021)-50460183

www.ebmpapst.com

Specification



Version	Date	Response	Content
0	2019/9/29	Vicky	initiate

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sickle-shaped blades (S series)

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Nominal data

Type	W6D800-KD01-XA/S01
Motor	**M6D138-LA**

Phase		3~	3~
Nominal voltage	VAC	380	380
Wiring		Δ	Y
Frequency	Hz	50	50
Method of obtaining data		ml	ml
Status		prelim.	prelim.
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	950	835
Power consumption	W	1306	1020
Current draw	A	4.2	2.1
Max. back pressure	Pa	160	117
Max. back pressure	in. wg	0.64	0.46
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	55	55
Starting current	A	14.5	4.1

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

AC axial fan - AxiBlade

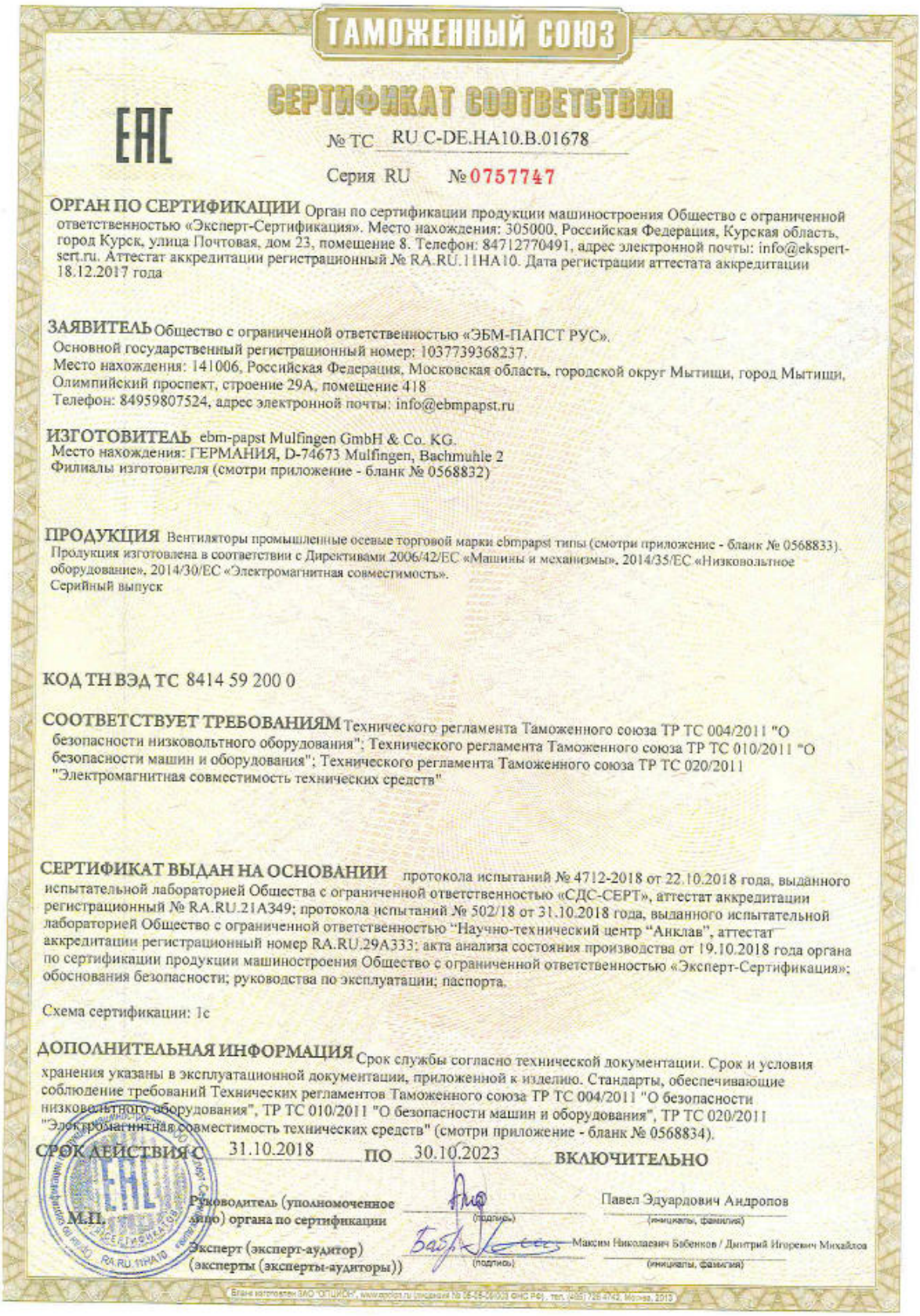
sickle-shaped blades (S series)

with square full nozzle

Technical description

Weight	50 kg
Size	800 mm
Motor size	138
Rotor surface	Cast in aluminum
Terminal box material	PP plastic
Blade material	PP plastic
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 7030)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	0°
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	On rotor and stator sides
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)

Approve



ТАМОЖЕННЫЙ СОЮЗ

EAC

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ ТС RU C-DE.HA10.B.01678

Серия RU № 0757747

ОРГАН ПО СЕРТИФИКАЦИИ Орган по сертификации продукции машиностроения Общество с ограниченной ответственностью «Эксперт-Сертификация». Место нахождения: 305000, Российская Федерация, Курская область, город Курск, улица Почтовая, дом 23, помещение 8. Телефон: 84712770491, адрес электронной почты: info@ekspert-sert.ru. Аттестат аккредитации регистрационный № RA.RU.11HA10. Дата регистрации аттестата аккредитации 18.12.2017 года

ЗАЯВИТЕЛЬ Общество с ограниченной ответственностью «ЭБМ-ПАПСТ РУС».
Основной государственный регистрационный номер: 1037739368237.
Место нахождения: 141006, Российская Федерация, Московская область, городской округ Мытищи, город Мытищи, Олимпийский проспект, строение 29А, помещение 418
Телефон: 84959807524, адрес электронной почты: info@ebmpapst.ru

ИЗГОТОВИТЕЛЬ ebm-papst Mulfingen GmbH & Co. KG.
Место нахождения: ГЕРМАНИЯ, D-74673 Mulfingen, Bachmuhle 2
Филиалы изготовителя (смотри приложение - бланк № 0568832)

ПРОДУКЦИЯ Вентиляторы промышленные осевые торговой марки ebmpapst типы (смотри приложение - бланк № 0568833). Продукция изготовлена в соответствии с Директивами 2006/42/ЕС «Машины и механизмы», 2014/35/ЕС «Низковольтное оборудование», 2014/30/ЕС «Электромагнитная совместимость».
Серийный выпуск

КОД ТН ВЭД ТС 8414 59 200 0

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза ТР ТС 004/2011 "О безопасности низковольтного оборудования"; Технического регламента Таможенного союза ТР ТС 010/2011 "О безопасности машин и оборудования"; Технического регламента Таможенного союза ТР ТС 020/2011 "Электромагнитная совместимость технических средств"

СЕРТИФИКАТ ВЫДАН НА ОСНОВАНИИ протокола испытаний № 4712-2018 от 22.10.2018 года, выданного испытательной лабораторией Общества с ограниченной ответственностью «СДС-СЕРТ», аттестат аккредитации регистрационный № RA.RU.21A349; протокола испытаний № 502/18 от 31.10.2018 года, выданного испытательной лабораторией Общество с ограниченной ответственностью "Научно-технический центр "Анклав", аттестат аккредитации регистрационный номер RA.RU.29A333; акта анализа состояния производства от 19.10.2018 года органа по сертификации продукции машиностроения Общество с ограниченной ответственностью «Эксперт-Сертификация»; обоснования безопасности; руководства по эксплуатации; паспорта.

Схема сертификации: 1с

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Срок службы согласно технической документации. Срок и условия хранения указаны в эксплуатационной документации, приложенной к изделию. Стандарты, обеспечивающие соблюдение требований Технических регламентов Таможенного союза ТР ТС 004/2011 "О безопасности низковольтного оборудования", ТР ТС 010/2011 "О безопасности машин и оборудования", ТР ТС 020/2011 "Электромагнитная совместимость технических средств" (смотри приложение - бланк № 0568834).

СРОК ДЕЙСТВИЯ С 31.10.2018 **ПО** 30.10.2023 **ВКЛЮЧИТЕЛЬНО**

М.П.

Руководитель (уполномоченное лицо) органа по сертификации — (подпись) — Павел Эдуардович Андропов (инициалы, фамилия)

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) — (подпись) — Максим Николаевич Бабенков / Дмитрий Игоревич Михайлов (инициалы, фамилия)

Бланк изготовлен ЗАО "ОПТИОН", www.goznak.ru (лицензия № 05-05-04/003 ФНС РФ), тел. (495) 726 4742, Москва, 2013

AC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

Reliability

Basic test

NO	ITEMS	Test Method/Standard	Results
1	Air performance	Air performance measurements are conducted on intake-side chamber test rigs conforming to the requirements of ISO 5801 and DIN 24163.	OK
2	Acoustic test	All acoustic values are determined in accordance with ISO 13347, DIN 45635 and ISO 3744/3745 as per accuracy class 2 and given in A-rated form.	OK
3	Vibration test	Vibration tests are carried out in compliance with – Vibration test in operation according to DIN IEC 68 – Vibration test at standstill according to DIN IEC 68	OK
4	Shock load	Shock load tests are carried out in compliance with – Shock load according to DIN IEC 68, parts 2-27	OK
5	Balancing quality	Testing the balancing quality is carried out in compliance with – Residual imbalance according to DIN ISO 1940 – Standard balancing quality level G 6.3	OK
6	Motor temperature rise	Temperature rise of fans, according to DIN EN 60034-2	OK
7	Balance tab fastness confirmation	In order to confirm the fixity of balancing weights we perform "spinning tests". In this tests, we turn the fan wheel to Min speed of 1.4x nominal speed and check the position of the individual balancing weights.	OK
8	Blade life test(1000,000start/off cycle):	No cycle test was performed with the 800 blade, As a reference we may mention the Hyblade 630mm blade which we can guarantee 1Mio cycles for (Indeed, diameter is smaller, however, speed is higher)	OK
9	Rotor locked test	Tested according to EN60034-11	OK
10	Reverse rotary start test(low voltage):	basically, it shouldn't be a problem for the fan to start in reversed rotation conditions. This would mean that the motor is breaking down from revered direction to 0 rpm and then starts into normal operation mode. During this phase, howerwer, LRA is applied.	OK
11	Overcurrent protection test	Locked rotor test is the condition of Max current draw, this is tested according to EN60034-11	OK
12	Rain test (Heavy rainfall standard)	IPX4 tested in the style of DIN 60529 and DIN 60034-5 for critical parts	OK

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Reliability

Ball bearing life expectancy calculation

calculation number:	16520
date:	20.09.2019
type:	W6D 800-KD01-XA/S01
motor:	M6D 138-LA
customer:	Trane

note: Data based on reference measurements. Calculated for 19950 m³/h @ 71 Pa. Calculation only applies to 380 V / 50 Hz and delta connection.

motor date		general data	
voltage[V]:	380	lubricant:	Asonic HQ 72-102
frequency[Hz]:	50	rs ball bearing type:	6204
capacitor[µF]:	0	ss ball bearing type:	6204
power[W]:	1200	amb. temperature[°C]:	40
speed[1/min]:	950	probability a1:	0,62

operating pos: rotor above	bearing:	rotor side	coeff. of grease a_{bb} : 0,7
nominal life expectancy		L_{nh}	145233
modified nominal life expectancy		L_{neh}=a1*a23*L_{nh}	61831
lubricant life expectancy		t_f	72373

The life expectancy is limited to 61831 hours by the modified nominal life expectancy.

operating pos: rotor below	bearing:	stator side	coeff. of grease a_{bb} : 0,8
nominal life expectancy		L_{nh}	145233
modified nominal life expectancy		L_{neh}=a1*a23*L_{nh}	68311
lubricant life expectancy		t_f	91184

The life expectancy is limited to 68311 hours by the modified nominal life expectancy.

operating pos: horizontal shaft	bearing:	rotor side	coeff. of grease a_{bb} : 0,7
nominal life expectancy		L_{nh}	297657
modified nominal life expectancy		L_{neh}=a1*a23*L_{nh}	126724
lubricant life expectancy		t_f	72373

The life expectancy is limited to 72373 hours by the lubricant life expectancy.

This calculation only takes influences into account, which occur within the scope of optimal application of the above motor and ventilator type.

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Reliability

Ball bearing life expectancy calculation

calculation number:	16519	**note:**	Data based on reference measurements. Calculated for 19950 m³/h @ 71 Pa
date:	20.09.2019		Calculation only applies to 380 V / 50 Hz and delta connection.
type:	W6D 800-KD01-XA/S01		
motor:	M6D 138-LA		
customer:	Trane		

motor date		general data	
voltage[V]:	380	lubricant:	Asonic HQ 72-102
frequency[Hz]:	50	rs ball bearing type:	6204
capacitor[µF]:	0	ss ball bearing type:	6204
power[W]:	1200	amb. temperature[°C]:	55
speed[1/min]:	950	probability a1:	0,62

operating pos: rotor above	bearing:	rotor side	coeff. of grease a_{bb} : 0,6
nominal life expectancy		L_{nh}	145233
modified nominal life expectancy		L_{nah}=a1*a23*L_{nh}	53230
lubricant life expectancy		t_f	36187

The life expectancy is limited to 36187 hours by the lubricant life expectancy.

operating pos: rotor below	bearing:	rotor side	coeff. of grease a_{bb} : 0,6
nominal life expectancy		L_{nh}	436435
modified nominal life expectancy		L_{nah}=a1*a23*L_{nh}	159961
lubricant life expectancy		t_f	36187

The life expectancy is limited to 36187 hours by the lubricant life expectancy.

operating pos: horizontal shaft	bearing:	rotor side	coeff. of grease a_{bb} : 0,6
nominal life expectancy		L_{nh}	297657
modified nominal life expectancy		L_{nah}=a1*a23*L_{nh}	109097
lubricant life expectancy		t_f	36187

The life expectancy is limited to 36187 hours by the lubricant life expectancy.

This calculation only takes influences into account, which occur within the scope of optimal application of the above motor and ventilator type.

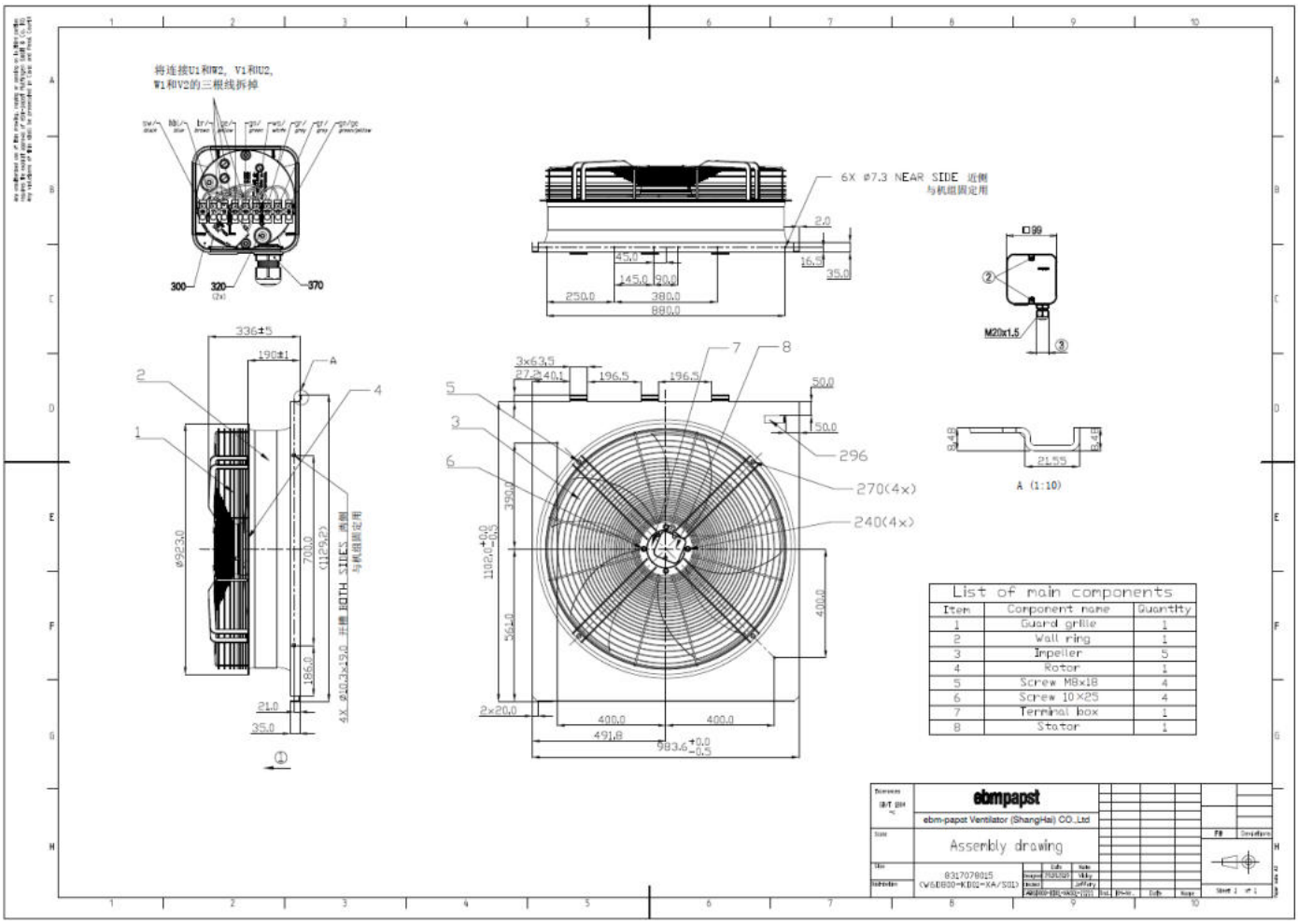
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Product drawing



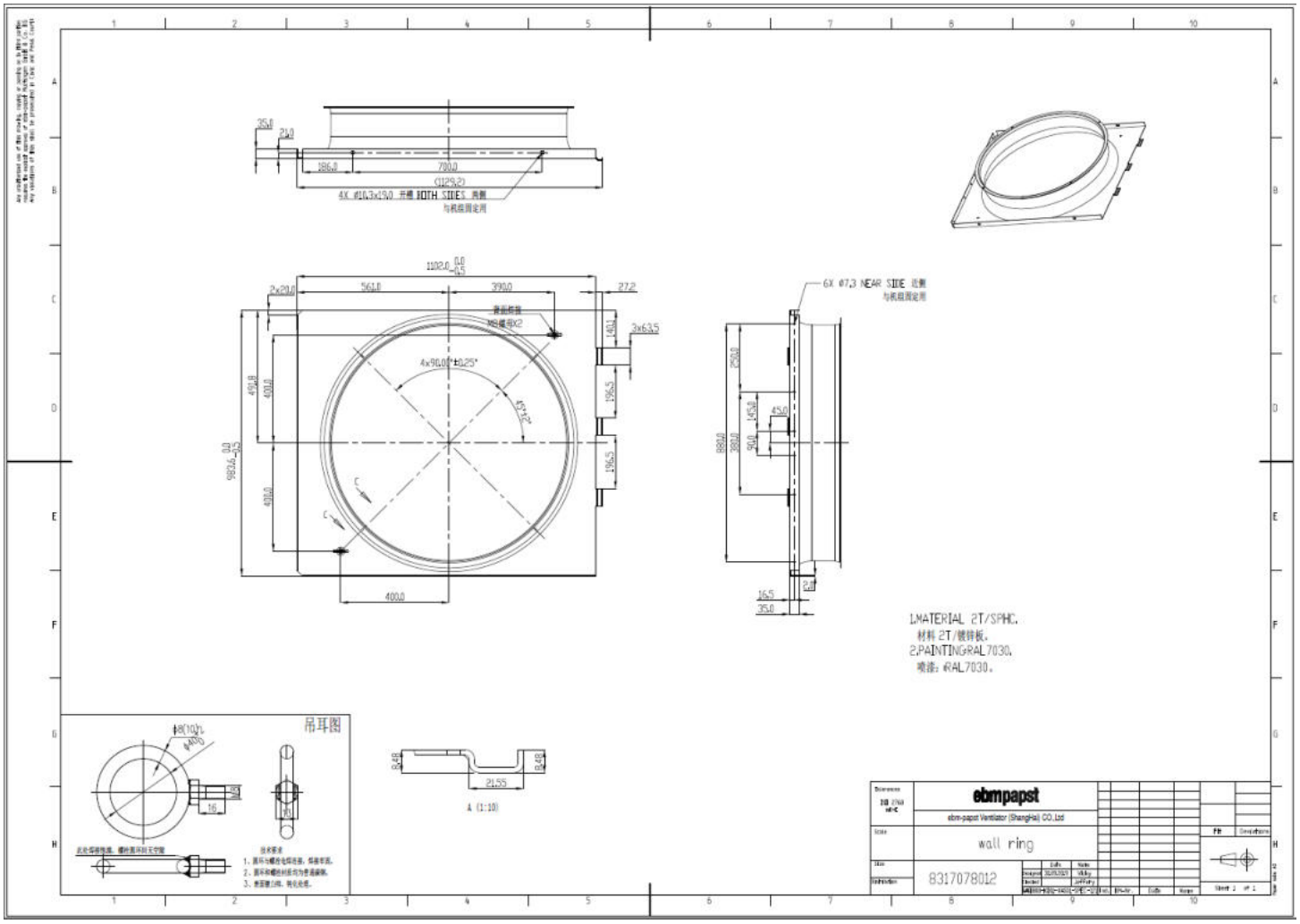
1	Airflow direction "V"
2	Tightening torque 1.5 ± 0.2 Nm
3	Cable diameter min. 7 mm, max. 14 mm, tightening torque 2 ± 0.3 Nm

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Wallring drawing



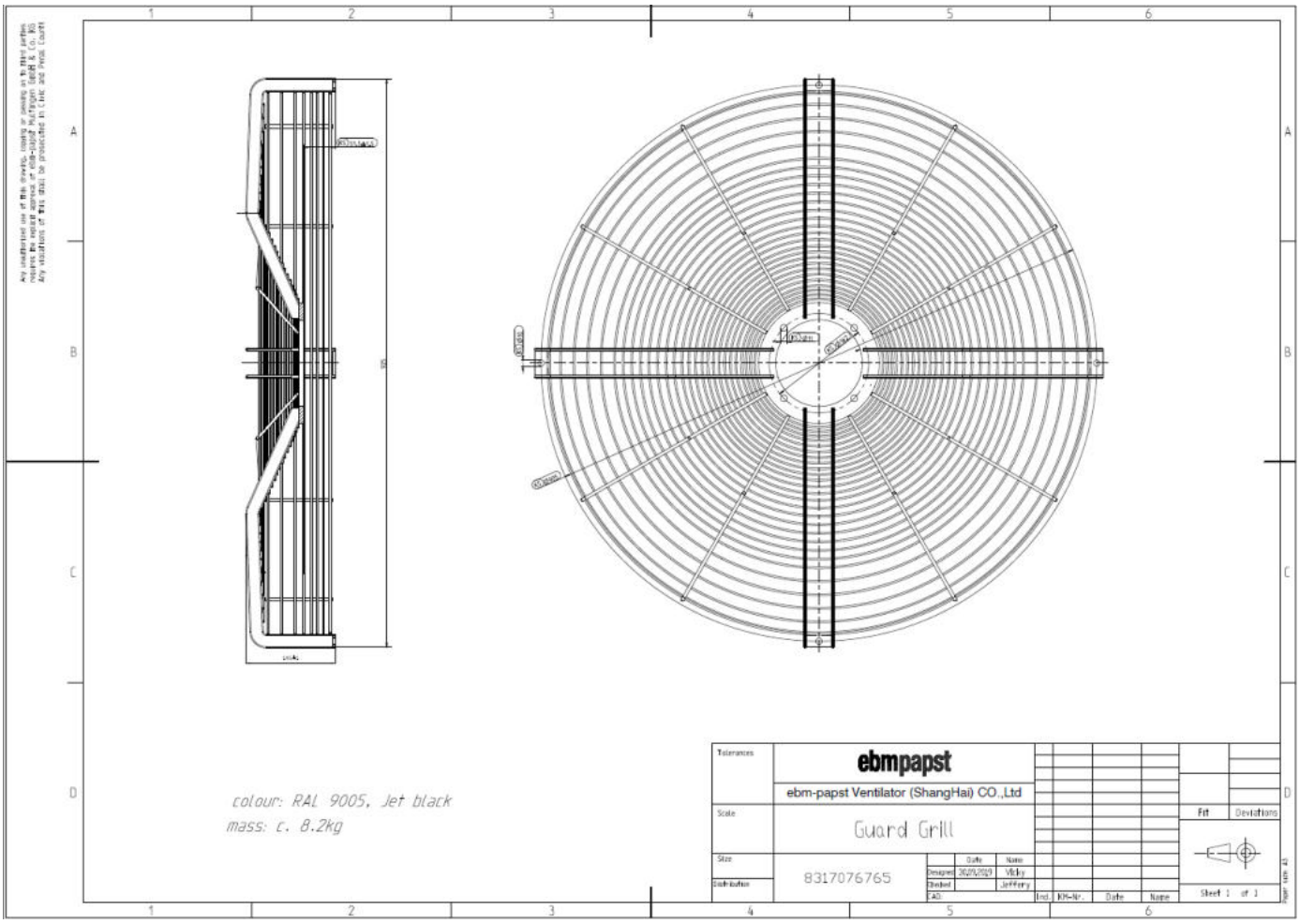
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Guard grille drawing



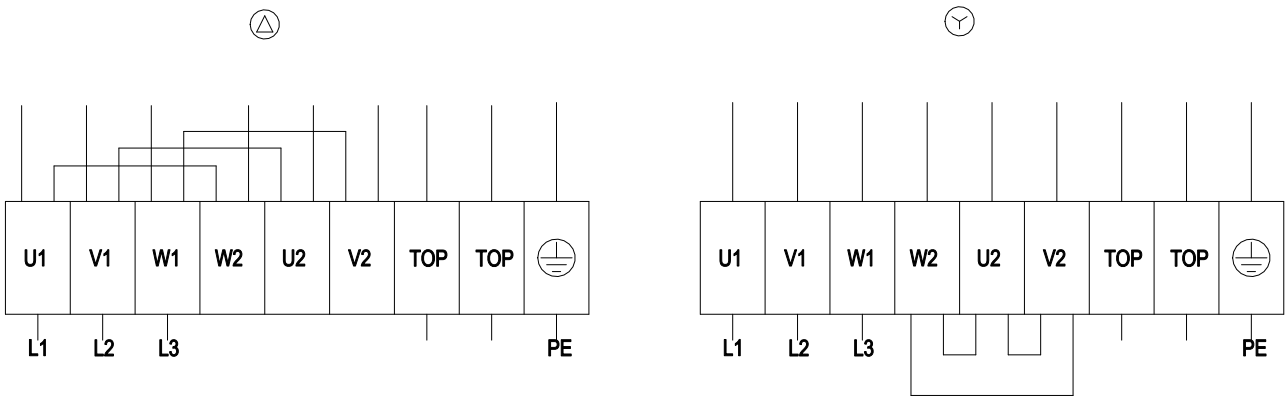
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Connection diagram



Δ	Delta connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2x gray
PE	green/yellow				

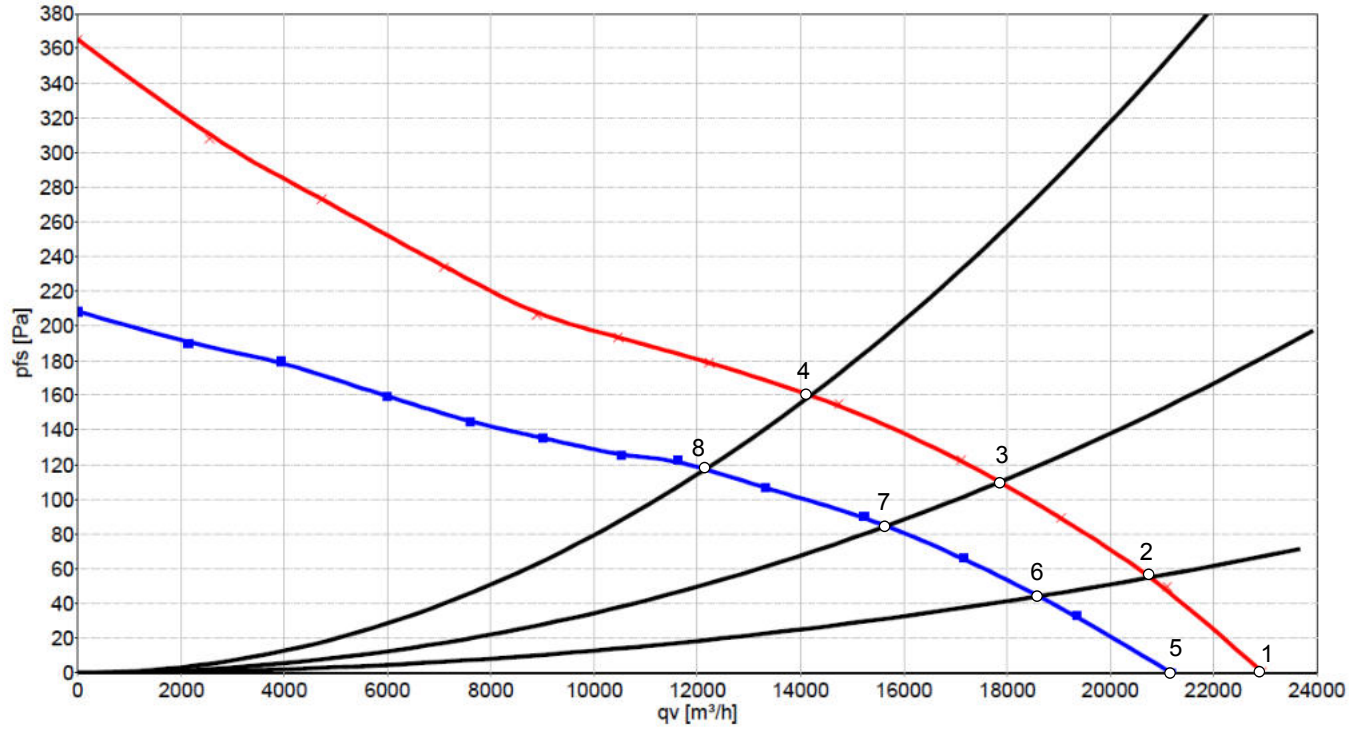
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Curves: Air performance 50 Hz

Line	Idno	Type	Measur.	Idx.	U [V]	f [Hz]	C [uF]	PWM [%]	Layout	p amb	Laufrad Breite	Remark
	9743	W6D800KD01XA	1	01B	380	50			Δ	1010.85		
	9938	W6D800KD01XA	1	01C	380	50			Y	1006.64		



Measured values

	Wired	U	f	n	P_e	I	q_V	p_{fs}	q_V
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm
1	Δ	380	50	962	1062	4.07	22932	0	13497
2	Δ	380	50	953	1249	4.22	20773	55	12226
3	Δ	380	50	945	1423	4.36	17844	110	10502
4	Δ	380	50	937	1559	4.49	14195	160	8355
5	Y	380	50	882	809	1.68	21189	0	12537
6	Y	380	50	853	943	1.9	18611	44	10954
7	Y	380	50	826	1053	2.13	15659	85	9216
8	Y	380	50	804	1130	2.28	12158	117	7156

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

ρ = 1.15 kg/m³ ± 2 %

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

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